

CLAIMS

WHAT IS CLAIMED IS:

[1] A disk apparatus comprising:

a stationary frame having an opening for inserting or ejecting a disk-shaped recording medium,

a disk guide which is rotatably provided in the proximity of said opening of said stationary frame, and which leads the insertion and ejection of said disk-shaped recording medium, and

a floating unit which is held in a floating state through elastic component in said stationary frame, and which has a function to perform recording and/or reproducing on said disk-shaped recording medium, wherein

said floating unit includes a disk-carrying member having a roller arm which rotates itself while pressing said disk-shaped recording medium onto said disk guide, so as to carry said disk-shaped recording medium to a desired position.

[2] The disk apparatus as recited in claim 1, wherein a space between said disk guide and said floating unit is used as a space for carrying said disk-shaped recording medium, and as a space for holding said floating unit in a floating state.

[3] The disk apparatus as recited in claim 1, wherein a desirable sized space for carrying said disk-shaped recording medium is formed when said roller arm is operated to press said disk-shaped recording medium onto said disk guide while said disk-shaped recording medium is being carried, and wherein a desired space for holding said floating unit in a floating state in said stationary frame is ensured, when said clamping member performs a clamping operation to clamp said disk-shaped recording medium at a recording/reproducing position during a recording/reproducing operation, after said roller arm is free from the pressing operation to said disk guide.

[4] The disk apparatus as recited in claim 1, further comprising a locking mechanism which locks said floating unit to said stationary frame, when said disk-shaped recording medium is inserted and carried, when said disk-shaped recording medium is carried and ejected, or when the ejection of said disk-shaped recording medium is completed.

[5] The disk apparatus as recited in claim 1, wherein, when the completion of the ejection of said disk-shaped recording medium is detected, said control slider is moved to allow a projection formed on said control slider to contact a projection formed on said stationary frame, to

thereby engage a part of said roller arm with a part of said disk guide.

[6] The disk apparatus as recited in claim 1, wherein said roller arm is held obliquely to a plane having said opening for disk insertion and ejection on said stationary frame, so that said disk-shaped recording medium inserted into said opening for said disk insertion and ejection is carried inclining to said plane.

[7] The disk apparatus as recited in claim 1, wherein said stationary frame comprises two frame sections having an upper frame and a lower frame, and wherein a projection formed on said disk guide at the rear side of said disk apparatus is engaged with a hole formed in said upper frame, so that said disk guide is rotated a predetermined angle on their engaging portion as a rotation center, relative to said upper frame at the front side of said disk apparatus.

[8] The disk apparatus as recited in claim 1, wherein said floating unit further includes a disk carriage-driving member which comprises a motor for driving said roller arm, a transmission mechanism for transmitting the driving power from said motor to said roller arm, a loading completion detecting means for detecting the completion of disk-

loading, and a control slider for transmitting an information detected by said loading completion detecting means to said transmission mechanism.

[9] The disk apparatus as recited in claim 8, provided with a locking mechanism which locks said floating unit to said stationary frame, when said control slider is moved according to the operating condition of said disk-shaped recording medium, and a projection formed on said control slider contacts with a projection formed on said stationary frame.

[10] The disk apparatus as recited in claim 8, wherein said control slider is moved to unlock said floating unit and hold it in a floating state, when said disk-carrying member has carried said disk-shaped recording medium to a recording/reproducing position.

[11] The disk apparatus as recited in claim 8, wherein the transmission mechanism for transmitting the driving power from said motor to said roller arm includes a worm and a worm wheel divided into two sections along a rotation axial direction, and wherein the rotation shaft of said worm wheel is inclined to a direction orthogonal to the direction for carrying said disk-shaped recording medium.